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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/634,577	08/05/2003	Michael Fripp	1391-41100 DVF	6984

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EXAMINER	
JENKINS, KIMBERLY YVETTE	
ART UNIT	**PAPER NUMBER**
2635	

DATE MAILED: 09/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/634,577	FRIPP ET AL.	
	Examiner	Art Unit	
	Kimberly Jenkins	2635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *15-24* is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pp.2-3, filed July 22, 2005, with respect to the rejection(s) of claim(s) 1-14 under Orban have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Orban in view of Goodson Jr. et al. (US 6568470).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orban et al. (US 5448227) in view of Goodson Jr. et al. (US 6568470).

Regarding claims 1 and 7, Orban, who teaches a method and apparatus for making near-bit measurements-while-drilling (MWD), expressively discloses a pressure pulser comprising: a first rotatable body 14 (motor assembly) in fluid communication with a flowing fluid (drilling mud); a second body 30 (shaft) coupled to said first body 14 (col. 8, line 62-col. 9, line 14). Orban discloses a fluid (drilling mud) that flows to the turbine 26 to generate electrical power to the system (col. 8, lines 8-10).

Additionally, Orban discloses a means of applying a field by way of an electromagnetic coil (col. 8, lines 48-61. However, Orban does not disclose the fluid as being an electr-active fluid.

However, Goodson, who teaches a down-hole actuation system utilizing electro-active fluids, expressively discloses the electro-active fluid (controllable fluid that responds to electrical or magnetic fields, such as magnetorheological (MR) or electrorheological (ER) fluids, col. 1, lines 44-63). Electro-active fluids are beneficial for the rapid response between mechanical systems and electronic controls; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the electro-active fluid of Goodson into the system of Orban, because Orban discloses the drilling mud as being the means of providing communication, whereas Goodson discloses electro-active fluids as being utilized for time-efficiency, which reduces costs of operations.

Regarding claims 2 and 10, Orban discloses the pulser wherein said first body is a mud motor 14 (col. 3, lines 29-35).

Regarding claims 3 and 11, Orban disclose the pulser wherein said second body comprises a shaft 30 and said means for applying a field includes an electromagnetic coil (col. 8, lines 49-67 and col. 10, lines 21-24).

Regarding claims 4 and 12, Orban discloses the rotor as circulating (rotating) within the motor assembly 14 (col. 6, lines 58-64). Orban inherently discloses the rotor as circulating the fluid as flowing through a flow line; however, Orban does not disclose the fluid as being electro-active.

However, Goodson discloses the electro-active fluid (controllable fluid, col. 4, lines 1-34). Therefore, it would have been obvious to one of ordinary skill in the art at

the time the invention was made to include the electro-active fluid of Goodson into the down-hole system of Orban, because Orban discloses the drilling mud as being the means of providing communication, whereas Goodson discloses electro-active fluids as being utilized for time-efficiency, which reduces costs of operations.

Regading claims 5 and 13, Orban disloses the pulser comprising a field-generating valve disposed on the flow-line, wherein said valve has a blocked position where a field is applied to the flow-line (col. 8, lines 1-17).

Regarding claim 6, Orban discloses the pulser wherein the pulser is integrated into a drill string 9 (col. 6, lines 51-67).

Regarding claim 8, Orban discloses the field is applied by applying a current to an electromagnetic coil (col. 8, lines 48-54).

Regarding claim 9, Orban discloses the field is applied by a magnetic circuit (col.23, lines 12-15).

Regarding claim 14, Orban discloses the first and second bodies 14 and 30 (respectively) are integrated into a drill string 9 (col. 6, lines 51-68 and Figs. 1 and 3A).

Allowable Subject Matter

3. Claims 15-24 are allowed, because prior art of record does not expressively disclose the following limitations of independent claims 15 and 16: a magnet proximate to said chamber of electro-active fluid and switchable between first and second states so as to apply a field to the electro-active fluid in the first state and not apply a field to the electro-active fluid in the second state. Dependent claims 17-24 are allowable by default of being dependent upon an allowable claim.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Jenkins whose telephone number is 571.272.3064. The examiner can normally be reached from Monday – Friday between the hours of 7am - 3:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Horabik can be reached on 571.272.3068. The fax phone number for the organization where this application or proceeding is assigned is 571.273.8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimberly Jenkins
Examiner
Art Unit 2635
8 September 2005

KYJ

MICHAEL HORABIK
SUPERVISORY PATENT EXAMINER
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